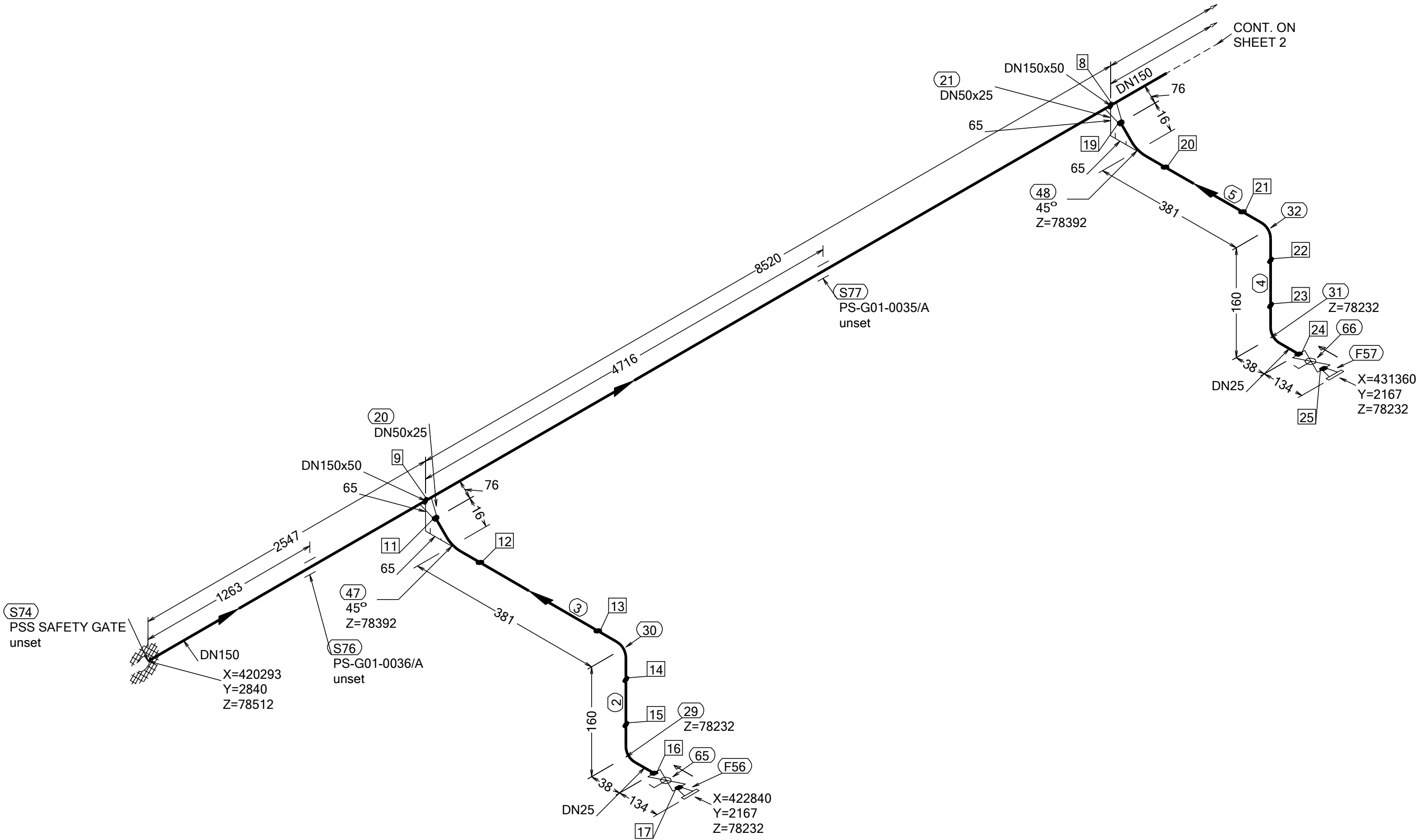


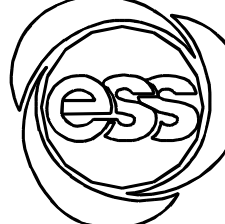
N (Y)



WELD	WPS
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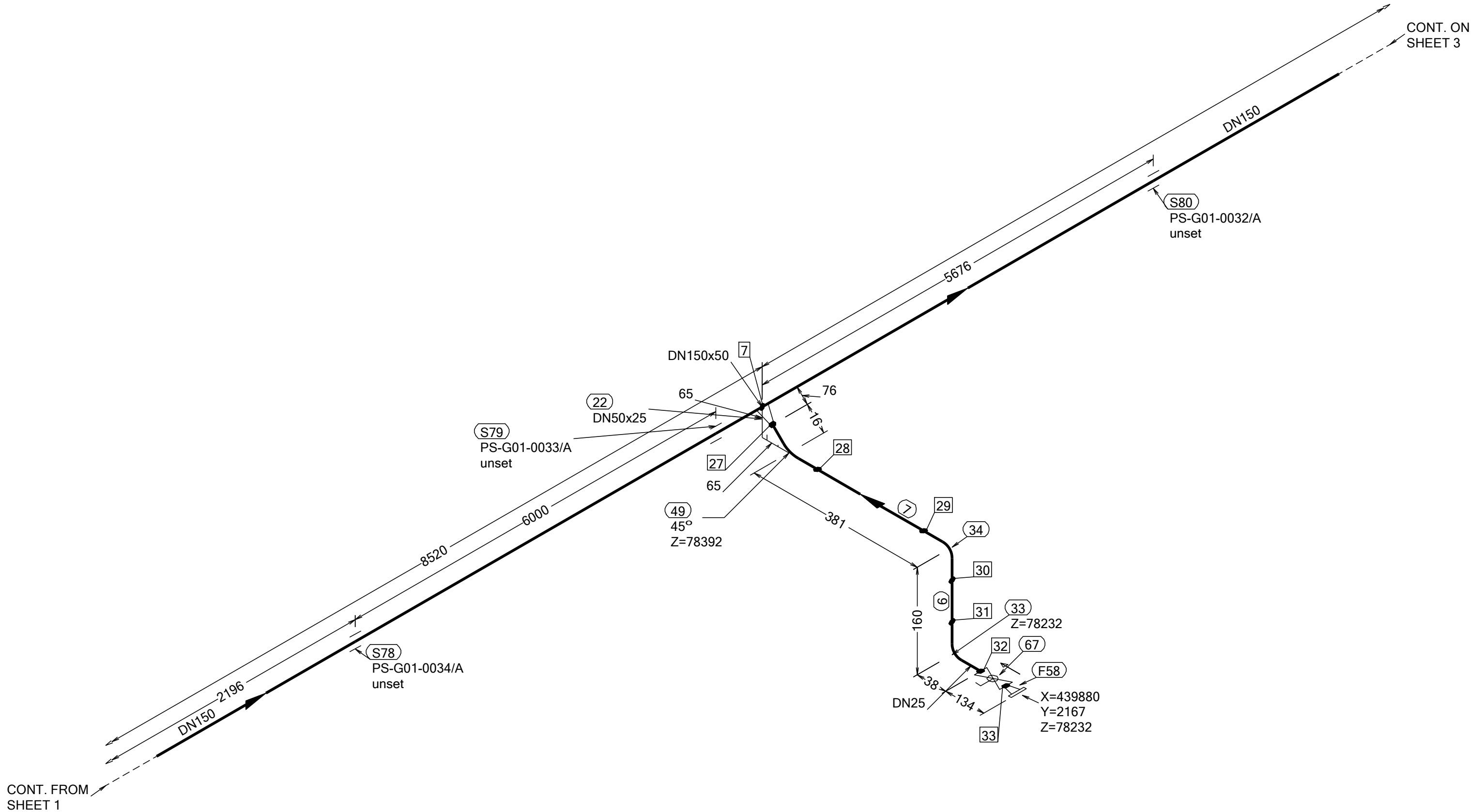
FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
	<u>PIPE</u>				
1	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	11068	SETON TEE
2	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
3	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
4	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
5	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
	<u>FITTINGS</u>				
20	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
21	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
29	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
30	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
31	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
32	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
47	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
48	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
	<u>FLANGES</u>				
56	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
57	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
	<u>VALVES / IN-LINE ITEMS</u>				
65	WORCESTER BALL VALVE BW, A59-666TT-BWJ DN25	25	EN 1.4404	1	
66	WORCESTER BALL VALVE BW, A59-666TT-BWJ DN25	25	EN 1.4404	1	

ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
SUPPORTS					
74	PENETRATION ATTA	150		1	
76	ESS Atta	150		1	
77	ESS Atta	150		1	

WPS See Weldlist	Design Temperature	Tightening Torque For Flange Joints	P&ID Drawing Number	General Layout Drawing Number	Calculation Report	Inspection Plan	Area Code
TBN	50degC	TBN	ESS-0059673	TBN	ESS-0058702	TBN	G01-MBL
Quality Level For Weldign Acc To	Design Pressure	Bend Radius	Bending Procedure	Coupling Installation Procedure	Pressure Test Program	Alternate System Tag	Date (First Issue)
TBN	10bar (g)	N/A	N/A	TBN	TBN		170522
Weld Joint Efficiency Factor (Longitudinal)	Test Pressure	Insulation Specification			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM-CWS02 OVERVIEW ESS.ACC.E02.E02.WP0003		Scale
1,0	14.3bar (g)	N/A					-
Elevation (z) Acc To	Quality Class	Insulation Thickness					Format
BCS	MQC4-C	N/A					A2
	Media	Allowance For Corrosion			Document Number ESS-XXXXX55		Sheet
	CWM	0					1 of 5
	Pipe Specification	Surface Treatment					Revision
	MQC4-W-PN16	N/A					A1


Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

N (Y)



WELD	WPS	FABRICATION MATERIALS					
7		PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
26			PIPE				
27		1	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	17038	SETON TEE
28		6	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
29		7	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
30		FITTINGS					
31		22	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
32		33	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
33		34	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
		49	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
		FLANGES					
		58	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
		VALVES / IN-LINE ITEMS					
		67	WORCESTER BALL VALVE BW, A59-6666TT-BWJ DN25	25	EN 1.4404	1	

PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
SUPPORTS					
78	ESS Atta	150		1	
79	ESS Atta	150		1	
80	ESS Atta	150		1	

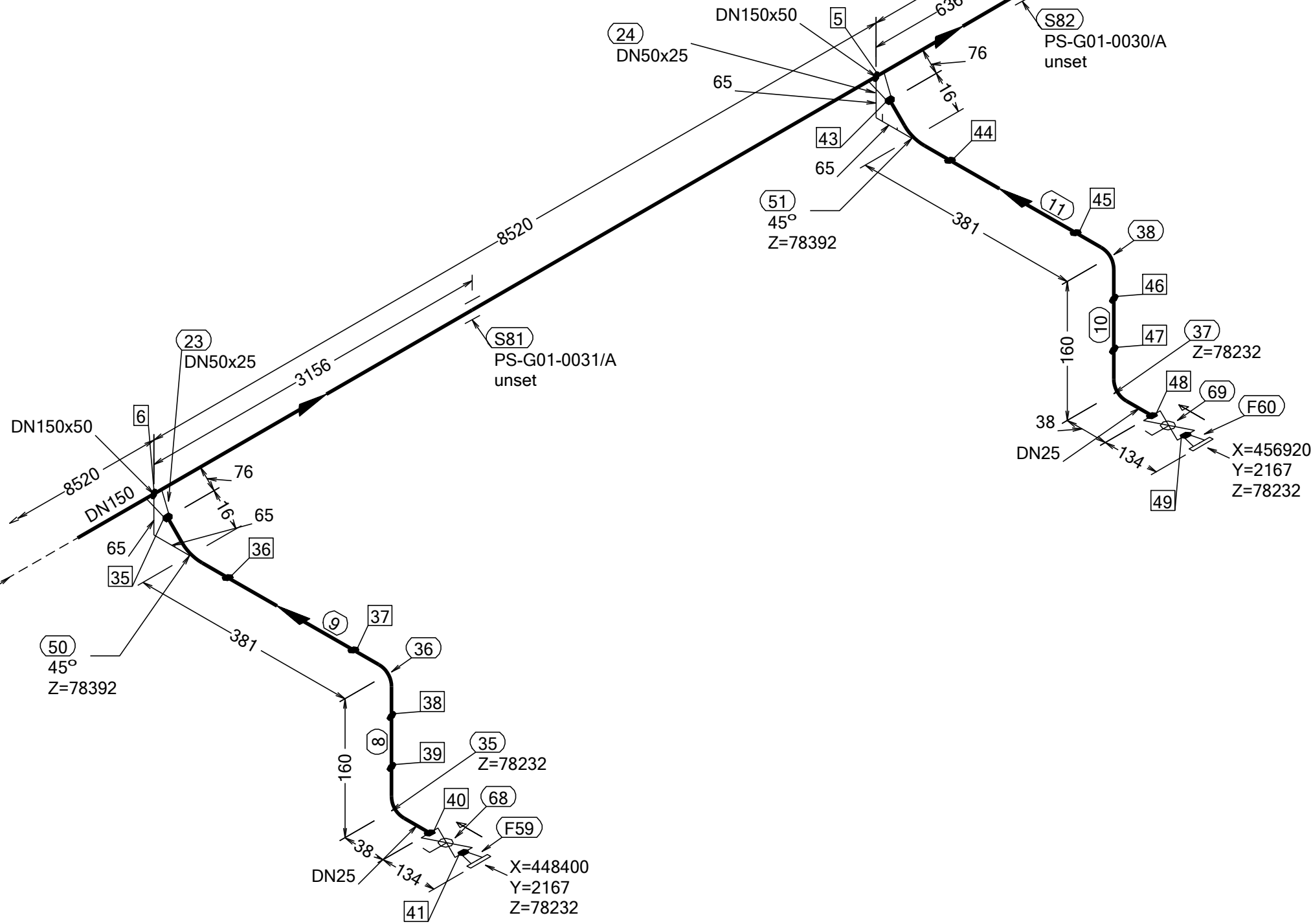
WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0059673	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G01-MBL
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A	<div><div>Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM-CWS02 OVERVIEW ESS.ACC.E02.E02.WP0003  Document Number ESS-XXXXX55</div></div>				Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 2 of 5
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A					Revision A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

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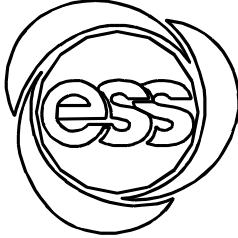
CONT. FROM SHEET 2



WELD	WPS
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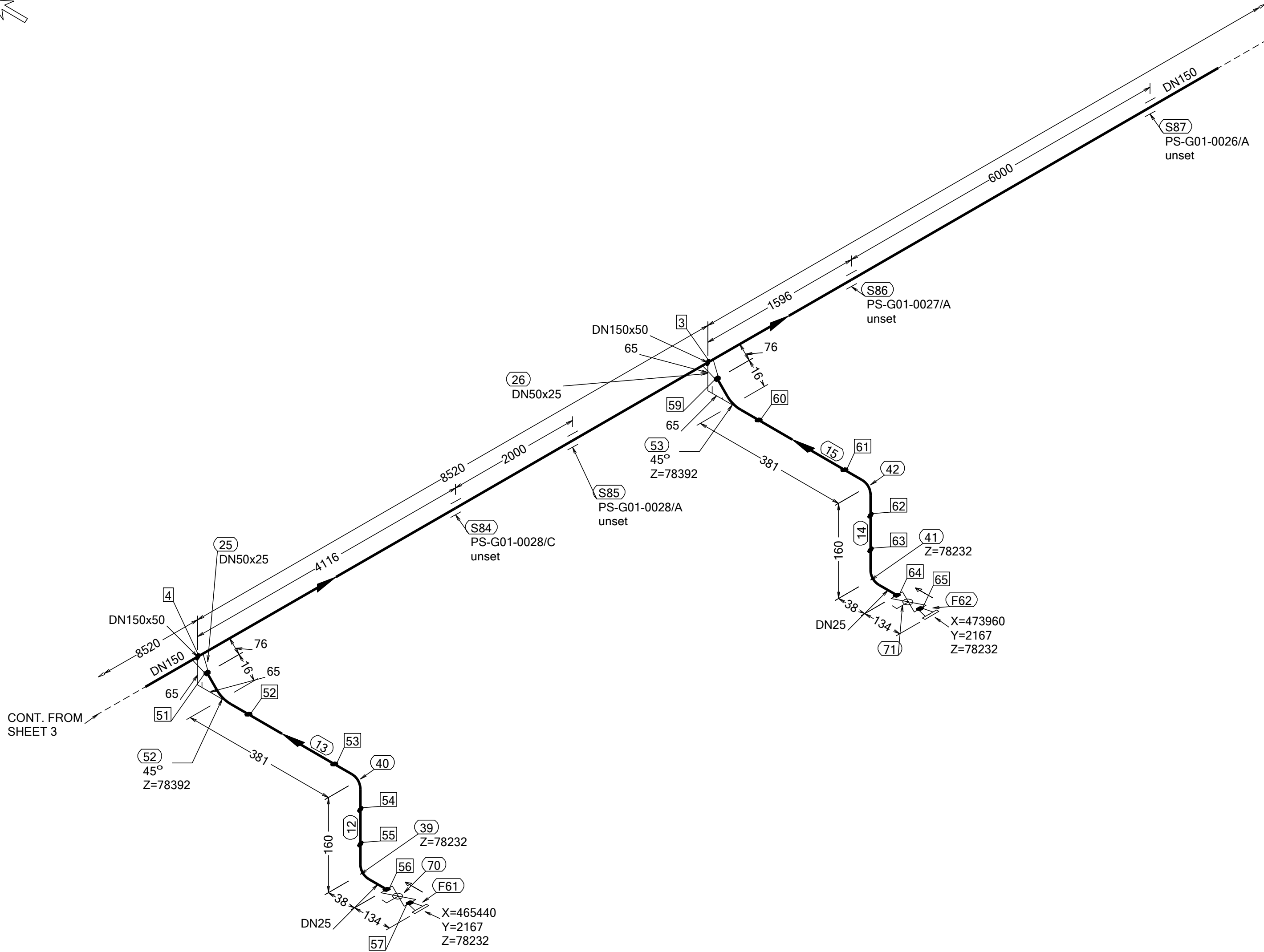
FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
	PIPE				
1	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	17040	SETON TEE
8	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
9	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
10	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
11	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
	FITTINGS				
23	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
24	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
35	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
36	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
37	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
38	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
50	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
51	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
	FLANGES				
59	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
60	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
	VALVES / IN-LINE ITEMS				
68	WORCESTER BALL VALVE BW, A59-666TT-BWJ DN25	25	EN 1.4404	1	
69	WORCESTER BALL VALVE BW, A59-666TT-BWJ DN25	25	EN 1.4404	1	

ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
SUPPORTS					
81	ESS Atta	150		1	
82	ESS Atta	150		1	
83	ESS Atta	150		1	

WPS See Weldlist	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0059673	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G01-MBL
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM-CWS02 OVERVIEW ESS.ACC.E02.E02.WP0003		Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 3 of 5
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A			Document Number ESS-XXXXX55		Revision A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

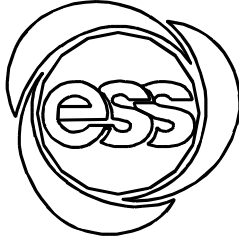
N (Y)



WELD	WPS
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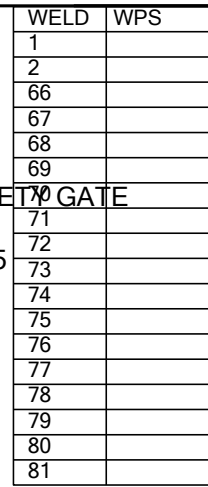
FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
	PIPE				
1	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	17040	SETON TEE
12	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
13	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
14	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	84	
15	PIPE, SS-EN 10217-7, TC1, 33.7x2.0	25	EN 1.4404	327	
	FITTINGS				
25	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
26	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
39	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
40	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
41	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
42	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
52	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
53	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 33.7x2.0	25	EN 1.4404	1	
	FLANGES				
61	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
62	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
	VALVES / IN-LINE ITEMS				
70	WORCESTER BALL VALVE BW, A59-6666TT-BWJ DN25	25	EN 1.4404	1	
71	WORCESTER BALL VALVE BW, A59-6666TT-BWJ DN25	25	EN 1.4404	1	

ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
SUPPORTS					
84	ESS Atta	150		1	
85	ESS Atta	150		1	
86	ESS Atta	150		1	
87	ESS Atta	150		1	

WPS See Weldlist	Design Temperature	Tightening Torque For Flange Joints	P&ID Drawing Number	General Layout Drawing Number	Calculation Report	Inspection Plan	Area Code
TBN	50degC	TBN	ESS-0059673	TBN	ESS-0058702	TBN	G01-MBL
Quality Level For Weldign Acc To	Design Pressure	Bend Radius	Bending Procedure	Coupling Installation Procedure	Pressure Test Program	Alternate System Tag	Date (First Issue)
TBN	10bar (g)	N/A	N/A	TBN	TBN		170522
Weld Joint Efficiency Factor (Longitudinal)	Test Pressure	Insulation Specification			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM-CWS02 OVERVIEW ESS.ACC.E02.E02.WP0003		Scale
1,0	14.3bar (g)	N/A					-
Elevation (z) Acc To	Quality Class	Insulation Thickness					Format
BCS	MQC4-C	N/A					A2
	Media	Allowance For Corrosion			Document Number ESS-XXXXX55		Sheet
	CWM	0					4 of 5
	Pipe Specification	Surface Treatment					Revision
	MQC4-W-PN16	N/A					A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

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ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
	<u>SUPPORTS</u>				
75	PENETRATION ATTA	150		1	
88	ESS Atta	150		1	
89	ESS Atta	150		1	

